Abstract

Introduction: Bacterial infections are among the most common infections, especially in hospitals and medical centers. We use antibiotics to defit these infections. Bacteria become resistant to antibiotics during the natural process and over time, but the inappropriate, unnecessary and excessive administration of antibiotics accelerates this process and causes the emergence of bacteria resistant to one antibiotic or sometimes resistant to several antibiotics. Bacteria resistant to multiple antibiotics are more dangerous and the highest infectious death rate is related to these types of infections that are resistant to multiple antibiotics. When resistance to an antibiotic develops, we have to turn to another class of antibiotics to treat the infection, which may be associated with problems such as the availability of that antibiotic or the lack of it and the side effect profile of the new antibiotic. to face The lack of appropriate and effective antibiotics for infections makes medical procedures such as chemotherapy, organ transplants and major surgeries difficult. In each treatment center, there are a number of common bacteria with a specific frequency and a specific pattern of antibiotic resistance and sensitivity, and the doctor working in that complex, as the main agent prescribing antibiotics, can, by knowing this, before receiving the results of the patient's culture, to have a rational and appropriate experimental prescription for the patient and this can help to slow down the process of antibiotic resistance.

Methodology: In this study, the files of 332 patients admitted to Imam Khomeini Hospital in the first 6 months of 1401 were reviewed and various data including the patient's demographic information (gender, age, BMI, etc.), the type and dose of antibiotics. Prescription, specialty of the attending physician, inpatient department, underlying diseases, kidney function, culture results and pattern of resistance and sensitivity of bacteria were recorded. The data collection tool was a checklist made by the researcher, which is set based on the goals and required data. The obtained data were analyzed with the help of SPSS version 26.

Findings: In the culture results reported for the 332 patients studied, the largest number of patients were treated in the emergency ward (16.26%) and the next in the respiratory intensive care unit (15.36%) and the largest number of samples The examined related to urine samples included 144 cases (43%) followed by blood samples in the number of 91 cases (27%). In general, the frequency of Gram-negative bacteria was 267 and accounted for 80% of the frequency, and E.Coli was the most abundant member of the Gram-negative group with 40.7%. ESBL, CRB, MRS and VRS resistance patterns were found among the reported cases, among gram negatives ESBL resistance pattern with a frequency of 31.62% and among gram positives MRS resistance pattern with a frequency of 16.6% was common. and among different specialties, internal specialists had the highest number of prescriptions in the study period.Among all 332 cases of antibiotic prescription, 82.5% of the cases were in accordance with the resistance pattern of the cultured bacteria and the clinical conditions of the patient, and 17.5% of the cases had errors.

Conclusion: According to the study conducted and its review with valid guidelines, the results show that there is a 17.5% error in prescribing antibiotics in Imam Khomeini (RA) hospital in Ardabil during the first 6 months of 1401. Due to the fact that the errors related to the adjustment of the prescribed antibiotic dose with the reported bacterial resistance pattern and the renal function of the patients, the need for further investigation and sufficient precision in adjusting the dose of these drugs and recognizing the dominant resistance patterns of each hospital department is evident.

Keywords: resistance patterns, bacteria, antibiotic, guideline